IFW

January 23, 2007.

OIPE IAP19
JAN 26 2007
PATENT & TRADEMARK OFFICE

To : Examiner Amber D. Steele
United States Patent and Trademark Office
PO Box 1450
Alexandria, VA 22313-1450

Re: Application number 10/684,249. Art unit 1639

Dear Examiner Amber D. Steele:

We thank you for sending us a fax copy of office action letter 122906 because we have not yet received that letter as of today. At any rate, we wish to reply to 4 items in the letter as follows :

1. The requested information concerning species XMR and how they are connected are provided in the table 1 below. In this table a specific species of X , the "phenylpropyl group", is chosen as a typical specific structure of X.

   When this "phenylpropyl" X group is connected with a specific "NH" M group and a specific "H" R group, the structure of the chemical is shown as 3-phenyl-1-propylamine.

   When this "phenylpropyl" X group is connected with a specific "O" M group and a specific "H" R group, the structure of the chemical is shown as 3-phenyl-1-propanol.

   When this "phenylpropyl" X group is connected with a specific "CO" M group and a specific "H" R group, the structure of the chemical is shown as 3-phenyl-1-propanal.

   When this "phenylpropyl" X group is connected with a specific "CO" M group and a specific "OH" R group, the structure of the chemical is shown as 3-phenyl-1-propionic acid.

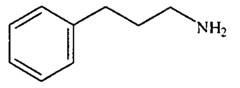
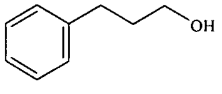
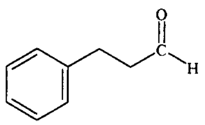
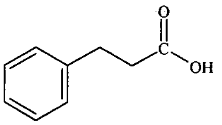
| X | M | R | Structure |
|---|---|---|---|
| Phenylpropyl<br>(an alkyl group) | NH | H |  <br>3-Phenyl-1-propylamine |
| Phenylpropyl<br>(an alkyl group) | O | H |  <br>3-Phenyl-1-propanol |
| Phenylpropyl<br>(an alkyl group) | CO | H |  <br>3-Phenyl-1-propanal |
| Phenylpropyl<br>(an alkyl group) | CO | OH |  <br>3-Phenyl-1-propionic acid |

Table 1 : Structure of XMR, examples of library compounds.

To clarify further on the reaction of this species XMR with either a stable isotope labeled chemical reagent or its non-labeled version, structures of the products are given in table 2 and table 3. So upon reaction of the above chemicals with a stable isotope labeled chemical reagent, a stable isotope labeled internal standard formed with the structure XM$^1$C(=M$^2$)(R) in the table 2 below.

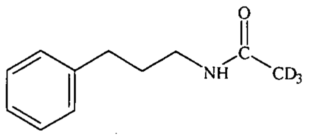
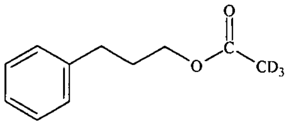
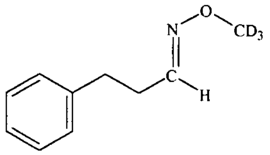
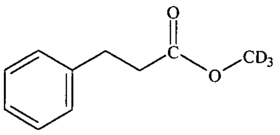
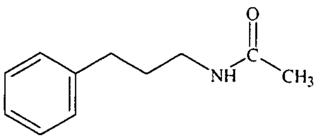
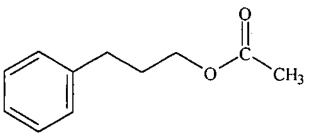
| X | M$^1$ | C(=M$^2$) | R | Reagent used | structure |
|---|---|---|---|---|---|
| Phenylpropyl | NH | C=O | CD3 | Acetic anhydride-d3 |  |
| Phenylpropyl | O | C=O | CD3 | Acetic anhydride-d3 |  |
| Benzyl | CH2 | CH=NO | CD3 | Methoxylamine-d3 |  |
| Benzyl | CH2 | C=O | OCD3 | Methyliodide-d3 |  |

Table 2 : Struture of stable isotope labeled internal standard XM$^1$C(=M$^2$)(R).

Upon termination of the enzyme reaction, a solution of the formed stable isotope labeled internal standard (with structure shown in table 2) is then added to the terminated enzyme reaction. A non-isotope version of the stable isotope labeled reagent is then added to this mixture to convert the remaining of the original library chemical into compound with the respective same structure as that in table 2 except the position of the deuterium atoms. The added stable isotope labeled internal standard in the solution is non-reactive towards the non-isotope version of the stable isotope labeled reagent The converted compound will have the structure with the formula XM$^1$C(=M$^2$)(R) depicted in table 3 below. The converted compound and its stable isotope labeled internal standard are then extracted and analyzed by mass spectrometry for the determination of concentration of the remaining of the library compound after enzymatic reaction.

| X | M$^1$ | C(=M$^2$) | R | Reagent used | structure |
|---|---|---|---|---|---|
| Phenylpropyl | NH | C=O | CH3 | Acetic anhydride |  |
| Phenylpropyl | O | C=O | H | Acetic anhydride |  |

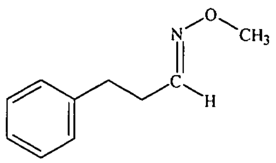
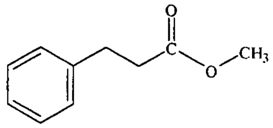
| | | | | | |
|---|---|---|---|---|---|
| Benzyl | CH2 | CH=NO | CH3 | Methoxylamine |  |
| Benzyl | CH2 | C=O | OCH3 | Methyliodide |  |

Table 3 : Structure of converted compound $XM^1C(=M^2)(R)$ .

Please advise us if more specific examples should be included to clarify "species election".

2. We are terribly sorry to create a confusion in the previous claim amendments which also lacked proper identifiers. Your explanation of 37CFR 1.121 was very helpful to us. We hereby ask your permission to amend the previously new claims 22 and 23. The added reagents were originally included in withdrawn claims 13 and 18, but were unintentionally omitted in the new claims 22 and 23. A new claim list is submitted with proper status identifiers. All text of all withdrawn claims are deleted. Added texts to new claims are underlined as required.

3. We are sorry for not submitting copies of all non-patent literature documents as required. A copy of each is attached here for your reference.

4. As requested we will provide contact information at the end of every correspondence.

Again we thank you for your telephone call concerning the office action of 12-29-2006. If possible, please give us a cal or send us an unofficial fax message of future office actions so we can have enough time to respond.

Sincerely and kind regards,

Hoa D. Nguyen
High Standard Products
14441 Beach Blvd, suite 225
Westminster, CA 92683
Tel. 714-373-4422
Fax 714-771-6096